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STEM RUST AND BARBERRY NEWS

Issued by

Division of Barberry Eradication

Volume II August 15, 1931 Number 8

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Bureau of Plant Industry
U. S. Department of Agriculture

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EPIDEMIOLOGY

(Reported by Dr. E. C. Stakman)

Results from the various lines of epidemiological investigations are converging gradually to the point at which an explanation of the phenomena associated with rust development during the past season will be possible.

The field observations are almost completed. Mr. Butler has made his final rounds in South Dakota, the final observations have been made in most of Minnesota, and Mr. Ukkelberg will soon have made the final observations in North Dakota. From the viewpoint of barberry eradication there is some comfort in the fact that rust was not destructive over a wide area. From the standpoint of general farm economics there is little comfort in the general crop situation.

The physiologic form survey is still under way and is being carried on vigorously, although the extremely hot weather during much of the summer has made progress difficult. Enough forms have been identified, however, to give a fairly good picture of the probable movement of rust during the spring and early summer. One interesting feature of the survey is the fact that there seems to be little indication that rust which might have been blown up from Mexico early in the season could have been of great importance in most of the barberry eradication area, as the forms most prevalent in Mexico apparently are not the most prevalent in the upper Mississippi Valley. A large number of collections of rust on barberry were also made and are being identified, with a view to determining which physiologic forms are most prevalent on the barberries and whether there is evidence that new forms are being produced abundantly as a result of hybridization on the bushes. It will be some time before conclusions can be drawn from this work, as it necessarily requires a great deal of time to study the collections with the necessary degree of thoroughness.

The slides which were exposed during the spring and summer to determine the spore content of the air at various places are being examined and the work should be completed within a few weeks. (August 8)

EASTERN REGION

Ohio - 8 East Broad Street, Columbus - Harry Atwood

Early in August a squad of six men conducted second survey in the city of Bellefontaine and vicinity. The workers report excellent cooperation from the postmaster, local newspaper, and townspeople alike. Several people have left their name and address at the post office, where a common barberry is on display, requesting the field agents to inspect their property. Instead of the people asking the boys what they are doing, they are asking if they are finding any barberry bushes.

A large common barberry was found planted in Brown City Park at Bellefontaine. A roadside sign has been erected at the bush. Through the courtesy of the Park Commission the bush and sign will remain in the park until fall work closes. The Commissioners are anxious for as many of the people as possible to see the bush and learn how to identify the common barberry.

While working in Richland Township, Logan County the men found a mammoth common barberry bush growing in front of an old brick house. The house is known to be about 90 years old and it is thought that the barberry was planted there shortly after the house was built.

In July more than 800 barberry bushes and more than 1000 seedlings were found and destroyed on 39 properties in rural sections of Logan County on second survey.

A recent issue of the Ohio Farmer reports Ohio first in nurseries. With 1313 nurseries in 84 counties, Ohio is the first State in the Union in propagation of fruit trees, shrubbery and perennials. Lake County has more nurseries than any other county in the United States. Seventy per cent of the stock grown consists of ornamentals for beautification of home grounds. (August 8)

Indiana - Purdue Experiment Station Annex, West Lafayette - Wayne E. Leer

The systematic survey of Decatur County was completed August 10. The survey of this county was begun last year. During this survey, 30 bushes and 56 seedlings were found on 19 properties.

The 8 field men were transferred to Johnson County August 11. It is hoped that they will be able to complete the survey of Johnson County this year. Approximately 50 per cent of the county has been surveyed since July 1.

Several reports of stem rust damage have been received from farmers in various parts of the State. It is planned to investigate these reports during August.

Materials for the Indiana State Fair barberry demonstration are being assembled and it is hoped to have the demonstration ready to go to Indianapolis within a week or ten days. (August 10)

Illinois - Post Office Building, Urbana - Robert W. Bills

Many areas in each county being surveyed contain timberlands with dense underbrush and weeds. It is impractical to scout these areas at this time of the year, and they will be left until after frost this fall.

All grain is now harvested. In a trip through south-central Illinois, it was found that no damage had been done by rust. It was difficult to find infected plants in the corners and along the borders of the fields. Winter wheat produced better than usual this year. Few oats were produced in that part of the State. The crop did well this year.

Barberry bushes are being found by all of the squads. Two areas of escaped bushes have been found in Ogle County in the past two weeks. One of these was reported by two school boys.

An area of escaped bushes was eradicated at Mooseheart by the Kane County squad. A large bush was destroyed in Itaska, Du Page County. It is believed to be responsible for an epidemic of rust in oats which was found to be heavy in the fields adjacent to the village. An area of escaped bushes near Downers Grove was responsible for rust in oats nearby which was so severe that the farmer did not attempt to harvest the crop.

Lesson materials covering the subject "Black Stem Rust and the Common Barberry" were sent to four counties where it is being incorporated with the supplies for each teacher. The County Superintendents have welcomed this material. (August 8)

Michigan - Michigan State College, East Lansing - Francis B. Powers

The Leader is at present with the squad working in the northern peninsula of Michigan. On August 6 he spoke and demonstrated the relation of common barberry to black stem rust to four hundred boys and girls in a sectional meeting of the 4-H Clubs at Chatham, where the State Experimental Station of the upper peninsula is located.

On August 7 he observed the work in the field and inspected the territory being worked. At Gwinn he was shown a pile containing 1500 common barberry bushes which had been eradicated from railroad property and an adjacent escaped area.

Oats are the chief crop in the upper peninsula. The fields range from milk to hard dough stage, some being harvested. The uredinial stage of stem rust is prevalent but it has arrived late in most cases, so will do very little if any damage. Barley and wheat are practically free from rust. Very little rye was planted and has for the most part, been harvested. One field of oats heavily rusted is in direct line with a barberry location 3 miles away. The location is on one of the high hills at Ishpeming and is believed to be responsible for the rust.

The Leader returned to Chatham on August 8 and spoke to the farmers gathered for the upper peninsula Farmers' Day at the Experimental Station. He will go from there to Gaylord to speak to another sectional meeting of 4-H Clubs from the north-central part of the lower peninsula.

The squads working in the southern counties of the State continue to find bushes on second survey. Most of the grain in the southern part of the State has been harvested.

Boys and girls in the southern counties are reporting bushes to the field men and aiding in the eradication of them. This is a result of the work carried on in the schools this spring. (August 8)

Wisconsin - State Capitol Annex, Madison, Wis. - Vern O. Taylor

WESTERN REGION

Minnesota - University Farm, St. Paul - Leonard W. Melander

The survey during July progressed quite rapidly in southwestern Goodhue County. However, it was somewhat slower in Rice and Dakota Counties. The men are finding bushes consistently. In Dakota, Goodhue, and Rice Counties 189 barberry bushes and 62 seedlings were found on 31 properties.

As a result of a notice in The Farmer and Farm, Stock and Home, we are receiving a large number of requests from boys and girls who desire to join the Rust Busters Club.

The value of sending out barberry information through newspapers and periodicals is illustrated by the fact that some time ago I received a sample of both green and purple barberry from a lady near Newport. She wanted to know if these were the harmful barberry bushes because she found them growing in her pasture and if they were not harmful she wanted to transplant them to her yard. Upon investigating we found an area of escaped bushes developing near an old location in Cottage Grove township, Washington County. We do not know how many bushes there are, but a preliminary investigation would indicate that there were quite a few. (August 10)

Iowa - Morrill Hall, Iowa State College, Ames - D. R. Shepherd

Survey activities were discontinued in Webster County on August first so the field forces could be concentrated in Greene, Carroll, Plymouth, and Woodbury Counties. It is our plan to complete the survey of these four counties this fall.

During the month of July, 1374 bushes and 913 seedlings were found on 96 properties in the 5 counties where the men were working. The field work has been progressing comparatively slowly this year because of the large amount of timbered areas and the heavy growth along the fence rows.

The Leader has recently been making plans for a fair exhibit which will be shown at the Waterloo Dairy Cattle Congress, a large county fair at Spencer, and possibly at the State Fair at Des Moines. No definite arrangement as yet has been made for space at the Iowa State Fair.

Messrs. F. C. Meier, W. L. Popham, and Dr. E. C. Stakman were Iowa visitors during the first part of August.

Assistant Leader Cassell, who has been in the employ of the Iowa office during the past four field seasons, will resign from his position on August 6. Mr. Cassell has accepted a graduate Fellowship at the University of Idaho where he is planning to continue his work in plant pathology. (August 1)

District No. 1 - Post Office Building, Fargo, N. Dak. - George C. Mayoue

Montana and North Dakota - District Leader Mayoue left Fargo August 6 for Bozeman where he was to meet with Messrs. Morris and Twilde. After the conferences at the State College he will spend several days with the field agents working under actual survey conditions.

Montanas fair schedule opens August 24 with the show at Great Falls and has been revised to include the Central Montana Fair at Lewistown, which opens the following week. Lewistown is in the heart of the Judith Basin, one of the State's richest agricultural areas. Incidentally, agents with a barberry demonstration at the fair there last year received a direct lead that resulted in a find of more than 40 bushes.

Some interesting figures were obtained at the Grand Forks State Fair (July 20-25) which brought the North Dakota schedule to a close. During the six days of the fair a total of 9,273 people visited the booth. The high peak was reached during the opening day (Children's Day) when 2,289 stopped to watch the Mechanical Rust Busters at work.

Count was made by a small hand tally, borrowed from the local telephone exchange and operated by one of the attendants. The counter was small enough to be concealed in the hand and operated while the agent was talking. On-lookers at any one time varied in number from one or two to 35 or 40.

Since the fair season closed, each days mail has brought upwards of half a dozen letters from teachers and school children throughout the State inquiring about the common barberry and the National Rust Busters Club. Prize winner was one letter (from Minnesota, hi!) addressed to the Malberry Club asking if the enclosed sample were a malbery -- and for one medal badge. At the end were the words, "Quick answer."

Mrs. Esther Soberg, stenographer-clerk in the District Office, recently returned from a vacation trip through the Pacific Northwest. While stopping in a Missoula, Montana, garage she by chance noticed the familiar U.S.D.A. sign and license. Drilled by her monthly microscopic examination of accounts, she recognized the license number as that of Assistant leader Twilde, who, however, did not return to the garage before Mrs. Soberg left. (August 7)

District No. 2, State College Station, Brookings, S. Dak.-R.O.Bulger

District No. 3, Agricultural College, Ft. Collins, Colo. - E.A.Lungren

There has been very little stem rust throughout the District this season. In eastern Colorado just a slight trace of rust appeared which was much later than normal. In western Nebraska, stem rust could be found in most all fields examined in the early part of July, however, there was only a trace. The grain at that time was being cut. In Wyoming the dry hot weather caused considerable damage to the grain, and in many sections it was not harvested. Stem rust in Wyoming is later than normal. To date we have been unable to find rust in the north and central parts.

Colorado. Second survey is progressing in Pueblo and Fremont Counties. The city of Pueblo has been completed on this survey and some 60 large barberries found and eradicated. At present the rural and river survey is progressing east of Pueblo in the Arkansas Valley. About four miles east, one property was found which had three large common barberries. One of these was the largest bush ever found in the State, having some 40 large canes at the base with some being about four inches in diameter. The estimated height of this bush was 15 feet and it was loaded with fruit. The bushes were growing in an orchard.

In Fremont County during July, additional areas of escaped bushes were found on the mesas east of Canon City. Many of these bushes were found growing on the cliffs leading to the more level table-land on top. Scouting and eradication is extremely difficult in many of these places. Several hundred bushes were found and eradicated in this area during July.

One barberry demonstration was given before the boys and girls club camp at Beulah.

Western Nebraska. Second survey of Cheyenne County was completed during July. Two large common barberry bushes were found on two properties. One large bush was growing on a rural property east of Sidney. It was lightly infected. Weather conditions during the most of July in western Nebraska were hot and dry. Very little rust developed this year and the first appearance found was much later than last season. It is planned to continue second survey during August in Deuel and part of Garden Counties.

Wyoming. During July demonstrations on barberry eradication were held at the Hinds Club Camp, Esterbrook Camp and the camp at Tensleep Meadows. Charts and demonstrational materials were prepared

for these demonstrations which were given before some 400 club camp members. Through the cooperation of State Club Leader, B. W. Marston, follow-up work will be given this fall and winter on informational activities with the 4-H Clubs.

Second survey of Campbell County was completed July 3 and one team moved to Johnson County. One large bush was found on a rural property soon after survey work started. Around Buffalo there is quite a large area under irrigation. The timber is rather dense along the rivers and streams, and the many woodlots on farms indicate rather ideal country to find escaped barberries.

In north-central Wyoming second survey will start in Weston County early in August. (August 4)